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(54) **Microactivity LED with photon recycling**

(57) A microcavity LED (10) with photon recycling including a substrate (12) having at least one layer (14) of material positioned thereon, and a first cladding layer (18), a second cladding layer (22) and an active region (16) sandwiched therebetween forming a mesa (24) on the layer (14) of material. The mesa (24) has generally vertical sides (28) and an upper surface (26) with an electrically conductive and light reflective system (32) positioned on the vertical sides (28) of the mesa (24) and partially covering the upper surface (26) to form a first electrical contact (32) for the LED (10), the electrically conductive and light reflective system (32) defining a centrally located light emitting opening (34) on the surface (26) of the mesa (24), the mesa (24) having a diametric dimension of the surface (26) greater than one time larger than a diametric dimension of the opening (34).

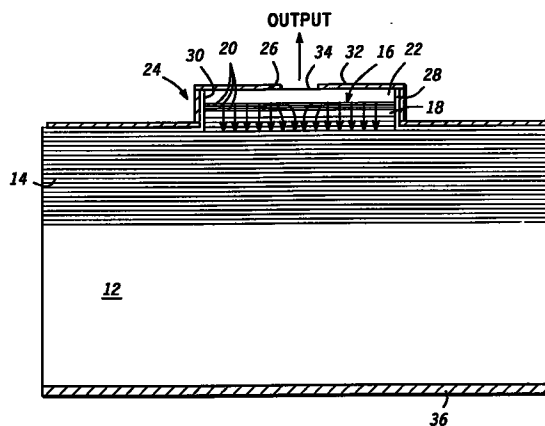


FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 96 11 6891

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
D,A	US 5 358 880 A (LEBBY MICHAEL S ET AL) 25 October 1994 * the whole document *	1,6,7	H01L33/00
A	--- PATENT ABSTRACTS OF JAPAN vol. 010, no. 121 (E-401), 7 May 1986 & JP 60 253286 A (ROOMU KK), 13 December 1985, * abstract *	1,6,9	
A	--- EP 0 483 868 A (YAMAUCHI NORIKATSU ;DAIDO STEEL CO LTD (JP)) 6 May 1992 * page 26, line 37 - page 27, line 29; figures 49-51 * -----	1,2,4-6,9	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6) H01L
Place of search THE HAGUE		Date of completion of the search 22 April 1997	Examiner De Laere, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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